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USDA Soybean Germplasm Reports

Soybean Genetics Newsletter

V. USDA SOYBEAN GERMPLASM REPORT

More than 1700 lines have been added to the soybean germplasm collection (North and South) in 1980. These entries are from Korea (8), China (20), and the USSR (1708) and greatly increase the number of lines available in Maturity Groups 000 to II. The introductions received from the USSR were from the soybean collection at the Vavilov Institute of Plant Industry in Leningrad. These lines represent 21 different regions of the USSR and 29 other countries including more than 700 lines originally from China. The distribution of these lines by maturity groups is as follows:

000	11
00	106
0	378
I	615
II	447
III	107
IV	53
later than IV	19
TOTAL	1736

These are preliminary totals and the final numbers may differ slightly.

A complete numerical list of soybean introductions including origin, foreign variety name, any other information received with the introduction, and our maturity group classification has been completed for the period 1900-1977. It is currently being reviewed and should be available for general distribution within a year. Final publication is being delayed so that maturity groups can be confirmed with data from the agronomic evaluation currently being conducted. Table 1 is from that document and summarizes the origins of the entries in the PI Collection through 1977. Table 2 is a summary by maturity group which gives a current count on the total number of introductions in the Collection. Table 3 is a chronological history of the growth of the Collection.

One year of the general agronomic evaluation of northern germplasm has been completed. These tests include all PI's from 273,483 through 427,107 in Maturity Groups 000-IV. Group 0 and earlier are being grown by Dr. Jean Lambert in Minnesota and the late Group IV lines are being grown by Dr. James Orf in Kentucky. In total, 2,770 lines are being evaluated. This data will be available late in 1982.

Table 1.

Number of strains in the PI collection by country
+ number in the variety collection
(Introduced 1900 to 1977, to PI 420,338)

	Total	Maturity Group 000 to IV	Maturity Group V to X
Asia			
Afghanistan	5	0	5
Burma	3	0	3
China	1039+79	949+56	90+23
India	228	2	226
Indonesia	16	0	16
Iran	1	1	0
Israel	13	7	6
Japan	1543+32	961+28	582+4
Korea	2242+19	1251+11	991+8
Malaysia	30	0	30
New Guinea	1	0	1
Nepal	24	0	24
Pakistan	15	0	15
Philippines	18	0	18
Taiwan	26	2	24
Thailand	34	0	34
Turkey	6	5	1
Vietnam	5	0	5
PI Total	5249	3178	2071
Variety Total	130	95	35
Africa			
Algeria	1	1	0
Angola	7	0	7
Cameroun	2	0	2
Kenya	3	0	3
Liberia	1	0	1
Mozambique	6	0	6
Sierra Leone	1	0	1
South Africa	32	0	32
Sudan	3	0	3
Tanzania	7	0	7
Uganda	31	0	31
Zaire	2	0	2
Zimbabwe	5	0	5
Total	101	1	100
Australia			
Australia	31	7	24

	Total	Maturity Group 000 to IV	Maturity Group V to X
Europe			
Austria	2	2	0
Belgium	88	88	0
Bulgaria	44	44	0
Czechoslovakia	6	6	0
England	1	1	0
France	101+2	101+2	0
Germany	37	37	0
Hungary	102	102	0
Italy	0+1	0+1	0
Netherlands	21	21	0
Poland	8	8	0
Portugal	3	3	0
Romania	143	143	0
Sweden	56	56	0
USSR	107+5	106+5	1
Yugoslavia	24	24	0
PI Total	743	742	1
Variety Total	8	8	
North America			
El Salvador	3	0	3
Guatemala	3	0	3
United States	4	0	4
Total	10	0	10
South America			
Argentina	7	1	6
Brazil	15	0	15
Colombia	5	0	5
Peru	8	1	7
Surinam	14	0	14
Uruguay	5	5	0
Venezuela	9	0	9
Total	63	7	56
Misnumbered	37	31	6
PI TOTAL	6234	3966	2268
VARIETY TOTAL	138	103	35

Table 2.

Number of strains in the USDA Soybean Germplasm Collection by Maturity Group

Maturity Group	FC	PI to 1944	PI 1944-1977	PI After 1977	PI Total
000	1	0	49	15	64
00	4	4	169	117	290
0	6	7	343	394	744
I	3	93	288	641	1022
II	6	404	248	480	1132
III	13	428	402	165	995
IV	18	320	1211	576	2107
North	51	1256	2710	2388	6354
V	10	71	1124	150	1345
VI	10	39	299	56	394
VII	17	14	251	8	273
VIII	2	3	226	10	239
IX	0	0	101	8	109
X	0	0	140	0	140
South	39	127	2141	232	2500
Total	90	1383	4851	2620	8854

Table 3.

A statistical history of soybean introduction

Period	Years	Rate	Number of Soybean PI Numbers	Current Number of Strains	
				PI Coll'n	Variety Coll'n
1898-1923	26	40/yr	1053	51	81
1924-1928	5	375/yr	1878	287	16
1929-1932	4	1193/yr	4773	1010	41
1933-1944	12	14/yr	169	35	0
1945-1974	30	85/yr	2555	2094	0
1975-1977	3	843/yr	2529	2757	0
Total	80	162/yr	12,957	6234	138

The germplasm lists and reports below are available from

Dr. R. L. Bernard, USDA
Turner Hall - Agronomy
University of Illinois
Urbana, IL 61801

except that those marked with an asterisk are available from

Dr. E. E. Hartwig, USDA
Delta Branch Experiment Station
Stoneville, MS 38776

Requests for seeds in Maturity Groups IV or earlier should be addressed to Dr. Bernard and requests for seeds in Maturity Groups V and later should be addressed to Dr. Hartwig.

Checklists giving name and Maturity Group (extra copies available to use in making requests for large number of strains):

1) Checklist of U.S. and Canadian varieties (00 to IV), January 1980.
2) Checklist of FC and PI strains (00 to IV), January 1980.
*3) Checklist of varieties and FC and PI strains (V to X), 1980.

Evaluation reports giving origin of strains and descriptive, agronomic, and seed composition data:

1) Varieties, Groups 00 to IV, 1970.
2) Varieties and FC and PI strains, Groups 00 to 0, 1965.
3) Varieties and FC and PI strains, Groups I to II, 1966.
4) Varieties and FC and PI strains, Groups III to IV, 1969.
*5) Varieties and FC and PI strains, Groups V to X, 1975.
*6) Evaluation II, PI Strains, Groups V to X (PI 330,635 to 424,616), 1980.

List of Genetic Type Collection, Aug. 1979.

List of backcross isolines of Clark and Harosoy, 1975.

List of wild soybeans, *Glycine soja*, 1979.

List of Perennial *Glycine* accessions, June 1979.

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